

MULTICHANNEL OPTICAL MULTIPLEXING DEVICE
USING A SINGLE LIGHT BANDPASS FILTER

ABSTRACT OF THE DISCLOSURE

5 An optical multiplexing device includes a light bandpass filter that passes
a first light wavelength at a first angle of incidence and passes a second light
wavelength at a second angle of incidence. In a demultiplexing version, a light
source directs a first incident beam including light of the first wavelength and
light of the second wavelength at the first angle of incidence onto the light
bandpass filter. The light bandpass filter passes the light of the first wavelength
10 therethrough and reflects a first reflected beam therefrom. A first light receptor
and redirector receives the first reflected beam and redirects the first reflected
beam back onto the light bandpass filter at the second angle of incidence as a
second incident beam. The light bandpass filter passes the light of the second
wavelength therethrough and reflects a second reflected beam therefrom. The
15 principle may be extended to the demultiplexing of additional wavelengths of
light from the incident beam.